SOME NEW SPECIES OF LEAFHOPPERS IN GROUPS RECENTLY SEGREGATED FROM THAMNOTETTIX.*

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The writer in a recent number of the Bulletin described several new genera of tree- and shrub-inhabiting leafhoppers that formerly had been included in the genus *Thamnotettix*. In this paper the new species that have accumulated in two of these new genera are characterized.

Idiodonus snowi Ball n. sp.

Resembling *kennicotti*. Shorter and stouter with a shorter vertex which is almost parallel margined. The clypeus much shorter and broader with black spots. Much smaller. Length \mathfrak{P} 5.5 mm. Cinnamon above and creamy below, the margins of the vertex creamy. The median band peppered with red. A trace of the ivory "collar" on the red-peppered pronotum.

Holotype Q, allotype A, and II paratypes, Pinal Mts., July 18, 1935. Three paratypes, Santa Rita Mts., June 22, 1930. All taken by the writer in Arizona. Paratypes in the Snow collection, University of Kansas. Named for Chancellor F. H. Snow who first collected this as well as so many other new and interesting leaf-hoppers in Arizona.

Idiodonus delongi Ball n. sp.

Smaller, shorter and much darker than *kennicotti*, with a definitely shorter, parallel-margined vertex. Length 4–5.5 mm. Vertex and face creamy, sometimes red-peppered above the two black spots. Whole dorsum above the subhyaline margin of the elytra rich red-brown, unmarked.

Holotype \mathcal{Q} , allotype \mathcal{Q} , Sanford, Fla., Sept. 30, 1925. Twelve paratypes from the same place in September and October, all collected by the author and a pair from Hillard, Fla., August 19, 1930, Beamer.

Idiodonus heidemanni var. chinonus Ball n. sp.

Resembling *heidemanni*, but smaller and more slender with a much longer and more inflated head. In typical *heidemanni*, the vertex is very broad, slightly angled with the margins usually concave, while in *chinonus*, the vertex is much narrower,

^{*} Types in the author's collection unless otherwise specified.

longer and more inflated in both diameters. Length 3.5–4.2 mm. In color they vary like the species from nearly all pale cinereous to almost entirely peppered with red, but they usually have a pair of black points on the vertex.

Holotype Q, allotype of, and one paratype, Chino, April 30, 1908, and twelve paratypes San Diego, July 5, 1931. All taken by the writer in California.

Idiodonus wickhami Ball n. sp.

Resembling heidemanni but with a shorter and more depressed vertex and with heavy black markings and red flecking, which on the elytra appears as red alternations along the extremely white nervures. In heidemanni they appear as red dots irregularly distributed over the surface. The vertex margin has two heavy black dots in a quadrangular creamy area, which is bounded by a black line above and by the heavy dark arcs below. There are three black dots against each eye, a widely separated pair at base of vertex, an irregular sub-marginal row on the pronotum, a pair of approximate black spots at the base of the orange scutellum and a pair of ivory dots on the lateral margin. Length of Q 4.5 mm.

Holotype Q and one paratype, Mesa, April 8, 1934; allotype of and two male paratypes, Mesa, April 1, 1934. One male paratype, Mormon Lake, August 6, 1929, and nine female paratypes, San Francisco Mountains, August 12, 1929. All taken in Arizona by the writer.

Idiodonus terminalis Ball n. sp.

Larger, darker and more strikingly marked than *schwarzi*, the female segment with a *clitellarius*-like notch and strapshaped projection instead of the usual sinuate margin. Male plates definitely broader apically instead of filamentous. Length 9.6 mm.

Vertex nearly half longer compared to its width than in *schwarzi*, with a transverse brown line. A pair of submarginal spots on the pronotum, broad stripes along the claval sutures and the tips of the claval veins ivory. The medius heavily darkened with the terminal apical cell smoky.

Holotype 9, Glenn Oaks, June 21, 1935: allotype 3, Santa Rita

Mts., June 22, 1930, and 14 paratypes from these mountains and the Santa Catalina and Atascasa Mountains, Granite Dells, Patagonia, Nogales and Tucson. All collected in the mountains of Arizona by the writer.

Idiodonus beameri Ball n. sp.

Size of form of *schwarzi* nearly, coppery brown with eight spots across the margin of vertex and a broad white costa. Length 9.5 mm.

Vertex rounding, parallel margined, twice wider than long, uniformly rounding to front. Venation as in *schwarzi*, the radius concolorous with the white margin. The medius very dark in contrast, the central anteapical not expanded as much anteriorly. Female segment much broader than long, rounding posteriorly with a V-shaped notch reaching one-third the depth. Male valve triangular, the plates together narrow, roundingly narrowing and then produced into long, almost filamentous points, the basal broad portion appearing to be a separate plate.

Color: Deep brown with a strong coppery reflection, the broad margin of elytra and below white in sharp contrast. Face with abbreviated arcs, the two upper ones often ending in black points. Two large spots on the rounding margin as in schwarzi, two smaller ones that taper to the ocelli which they partly enclose; outside the ocelli on each side two quadrangular ones separated by a white line. The scutellum has a heavy (+) St. George's cross. The claval veins pale, the rest

dark, except on the costal white stripe.

Holotype Q, allotype &, and five paratypes, September 11, 1935, and three, October 6, 1932, all taken by the writer in the Chiricahua Mountains of Arizona. Named for Dr. R. H. Beamer, whose collecting parties have done splendid work in this region.

Idiodonus uhleri Ball n. sp.

Resembling geminatus Van Duzee, larger with a broader head, larger spots and no dark nervures. Pale green with four black spots on the head. Length 25.5 mm.

Head broader than in *geminatus*, the eyes exceeding the pronotum, the vertex very slightly longer on the middle than against the eye instead of definitely produced as in that species. Elytra with the venation similar in pattern but the nervures concolorous or white, while in *geminatus*, they become smoky

and distinct towards the apex. Genitalia of the typical notch and strap pattern, the male plates broader and regularly tapering rather than rounding and then produced.

Color: Pale green, the vertex, scutellum and all below pale yellow. A pair of spots on apex as in *geminatus*; another pair larger than those in *geminatus* and set against the margin of the eye instead of some distance from it. Pronotum with only a trace of the white margin and scutellum with only a line in the transverse suture instead of three pairs of spots. The face unmarked.

Holotype Q, allotype Z, and four paratypes taken by the writer in Pine Valley, California, July 6, 1931.

Colladonus clitellarius var. marcidus Ball n. var.

Size and form of typical *clitellarius* but with the dark brown replaced by a light golden brown as in *eburatus* Van D. From the latter it differs by the smaller size and the two spots on vertex.

Holotype Q, July 21, 1919; allotype & and three paratypes, Ames, Iowa; two paratypes, Madison and Green Bay, Wisconsin; all taken by the writer: four paratypes, Long Island (Olsen); one, Kentucky (Wirtner), and one, Illinois (Gerhardt).

Colladonus montanus var. mulsus Ball n. var.

Size and form of typical *montanus* Van Duzee, but with the dark brown replaced by light or golden brown as in the above variety of *clitellarius*. The pronotal band is always present and the saddle may be quite distinct or obscure. In case it is distinct, the median line is darkened before and after the saddle and again at tip.

Holotype Q and allotype &, Muir Woods, California, June 17, 1934, and eleven paratypes from Watsonville, San Luis Obispo and Spreckels, California, Wells, Nevada, and North Park, Colorado, all collected by the writer.

Typical montanus as thus restricted is very dark with the base of the vertex dark, a definite saddle and often two small black spots on vertex. Variety reductus Van D. is dark and has lost the saddle while mulsus has the dark replaced by golden and may have the saddle. Var. marcidus of clitellarius is similar in color but has a broad saddle and definite black spots on vertex.

Colladonus cachellus Ball n. sp.

Size and form of *mendicus* Ball, nearly, with a more pointed vertex and lacking the dark markings. Female pale cinnamon, male light olive, both with oblique, dark chevrons across the cross nervures. Length 96 mm.

Vertex conical, little longer than in *mendicus*, but more pointed. Twice as long on middle as against eye. Pronotum much more arched into head than in *mendicus*. Female segment with a broad, shallow notch and a broad, short strap, broadened and bilobed at the apex. Male plates of the usual

"spoon" type.

Color: Female, pale cinnamon above and below, the pronotum with a broad, rather indefinite light "collar." The vertex and face lighter with pale cinnamon arcs and lines. Male, pale olive above, vertex and below creamy, the "collar" broadly olive. Both sexes with a pair of dark triangles separated by a pair of round spots along the base of scutellum. A pair of oblique, brown chevrons across the cross nervures, the tips of the claval nerves and several spots in the areoles milky, the apical cells smoky.

Holotype Q, Logan Canyon, August 12, 1916; allotype & and one male paratype, same place, July 26, 1915. All taken in Utah by the writer, one female paratype, Milford, Utah, September 3, 1928, taken by E. W. Davis.

Colladonus egenus Ball n. sp.

Size and form of *mendicus* Ball, nearly. Pale creamy white with a dorsal stripe interrupted by the collar and a pair of

oblique black chevrons. Length of 5.5 mm.

Vertex slightly broader and less acute than in *mendicus* and lacking the black spots at apex. Pronotum with the ivory collar of *mendicus* but paler, the markings in front of the collar pale brown. Scutellum creamy subhyaline with the nervures concolorous. The scutellar and sutural margins brown, interrupted by the creamy apices of the claval nervures. The central apical cell dark smoky and all the nervures bounding the apical cells, except the one on costa, dark brown. A pair of oblique black chevrons on the middle of the corium, not reaching the costal margins. Genitalia as in *mendicus*.

Holotype &, Chilliwack, B. C., July 28, 1924; allotype Q, Spanish Fork, Utah, August 11, 1931 (Bowen).

Colladonus ponderosus Ball n. sp.

Resembling *tahotus* Ball but one-half larger and lacking the white costal and vertex margins. Length 96 mm.

Head narrower or only equalling the pronotum, while in *tahotus* it exceeds it in width. The vertex definitely longer in the middle than against the eyes, whole dorsum reddish brown, below tawny. The apex of the head is slightly lighter than the dorsum with two small round spots about twice their own width from the suture at the ocelli. The tips of the claval veins ivory but no ivory on the costa. The female segment has a much shallower notch than in *tahotus* with a broad strap.

Holotype ♀ and one female paratype taken by the writer in the Chiricahua Mountains, Arizona, September 11, 1935.

Colladonus arculus Ball n. sp.

Resembling *tahotus* in size and form; pale greenish white with three sides of a black box on vertex. No spots on apex. Length 25 mm.

Vertex one-third longer on middle than against the eye, obtusely angled, more acutely angled with the face than in tahotus without apical spots. A broad dark band across vertex just back of ocelli, often interrupted on the median suture and not extending beyond the ocelli which are distant from the eyes. From the outer ends of this band dark lines extend back nearly to the base of the vertex, forming a three-sided black box. There are narrow irregular crescents behind the eyes, black spots inside the basal angles of the scutellum and dark arcs on the face. The upper pair are more widely spaced, shorter and heavier than the others. The male plates are of the typical long-spoon shape, the female segment with a typical excavation but this is almost entirely filled by a very broad bifurcate strap. Pale forms may lose all the dark markings except two spots back of the vertex.

Holotype 9, allotype 3, and 14 paratypes taken by the writer at Medford, Oregon, June 27, 1934.